July 9, 2010 Vol. 50, No. 14

Spaceport News

John F. Kennedy Space Center - America's gateway to the universe

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Roadmap to center's future takes shape

By Rebecca Sprague
Spaceport News

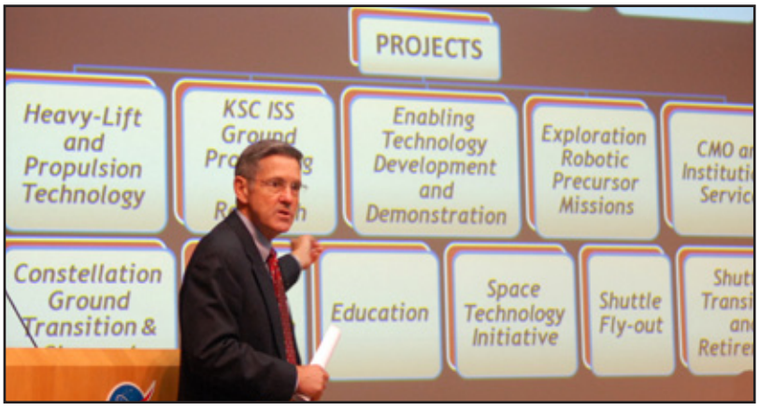
Paving the way for Kennedy Space Center's future starts with defining what the center is today and taking the bull by the horns for tomorrow.

"We are going to get through this transition. We do have a great future here at the Kennedy Space Center," Center Director Bob Cabana said during an All-Hands meeting June 30. "We are doing everything possible to ensure that vision . . . that future . . . is what we want it to be, not what just gets handed to us."

One of the main goals Cabana talked about was transforming Kennedy's work force, organization and institutional services so that when a transition occurs, the strengths and talents associated with a specific program aren't lost.

"We want to have Kennedy as the strong institution that provides that matrix support to multiple programs," Cabana said.

Leads for the planning efforts for Kennedy's programs outlined in NASA's fiscal year 2011 budget joined Cabana to discuss the center's role in each.



NASA/Jim Grossmann

At an All-Hands meeting June 30, Center Director Bob Cabana says Kennedy will transform itself into a modern launch facility to support a wide variety of missions.

Commercial Crew

Ed Mango, Space Transportation Program Office director, reiterated the institutional changes that will need to take place for commercial crew endeavors to work -- and it begins with oversight and insight. He said NASA will have to be a "smart buyer" by defining its requirements and then allowing commercial providers to be as innovative as possible. When providers encounter a problem, the agency will be there, armed with a team of experts and 40 years of human spaceflight experience, to guide them.

"The heartbeat of the organization is going to be in the insight role. We don't want to be a hammer . . . we want to be able to dialogue and partner," Mango said.

21st Century Space Launch Complex

For NASA, other government agencies and commercial entities to launch, the spaceport -- Kennedy and Cape Canaveral Air Force Station -- will receive $1.9 billion during five years to become a 21st Century Space Launch Complex. That will include re-structuring and re-purposing Kennedy's facilities from a vehicle-centric infrastructure to a multi-use architecture, enhancing payload processing capabilities and accelerating environmental remediation.

"There are a lot of diverse things that we're going to be able to do here from the spaceport," said Jennifer Kunz, Constellation Project Office deputy director (who leads the 21st Century Launch Complex effort at Kennedy), "We want to capitalize on how efficient we can process and launch vehicles from Kennedy. The bottom line is very important to commercial entities . . . it will very important to us."

Flagship Technology Demonstration Program

Four missions already are in the works for NASA's new Flagship Technology Demonstration Program, which will be primarily based at NASA's Johnson Space Center in Houston. Kennedy will take the lead for the In-space Propellant Transfer and Storage, or Cryostat, mission targeted to launch no earlier than May 2015.

"Here's non-traditional work that Kennedy is going to be the lead center and responsible for," Pepper Phillips, Constellation Project Office director (Kennedy's head for the Flagship Technology Demonstration Program), said. "Kennedy actually has a lot of experience in handling

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Inside this issue . . .

Talent, dedication impress job fair employers

By Linda Herridge
Spaceport News

Annette Burkette, with Rockwell Collins in Melbourne, Fla., said she was overwhelmed and impressed by the amazing talent she saw as Kennedy Space Center workers visited her booth during on-site and off-site job fairs.

"Now I have the hard part of sorting through so many wonderful resumes. I'm going to pursue all my openings at Kennedy Space Center," Burkette said.

Thousands of Kennedy workers met with federal and private employers from around the country during job fairs coordinated by Kennedy's Human Resources Office and Brevard Workforce. Representatives from 47 government organizations and private companies spoke with resume-bearing workers eager to ask questions and discuss employment possibilities.

On June 24, about 2,500 workers were shuttled between the Operations Support Building II and the Space Station Processing Facility. On June 25, about 600 workers attended the off-site job fair at the Radisson Resort at the Port in Cape Canaveral, Fla.

NASA/Kim Shiflett

Kennedy Space Center and Brevard Workforce hosted a job fair June 24 and 25 to help center employees with future planning and placement as the Space Shuttle Program comes to an end.

One worker said he's been here since the Apollo Program and has never seen anything like these job fairs. Another worker voiced appreciation for everyone's efforts and said it was very well organized. Yet another said, "You guys are really making a difference out here."

"We have such a talented, dedicated work force so I am not surprised that so many employers decided to take advantage of this unprecedented opportunity," said Tracy Anania, the director of Human Resources for NASA at Kennedy. "It is bittersweet, however, because we are inviting employers here to hire those who have been critical to the success of our programs."

More online
For more information, go to
https://hrapps.ksc.nasa.gov/voice

Several weeks before the job fairs, Kennedy's Human Resources staff provided resume assistance to about 900 workers, and federal resume writing and interview skills training to about 400 workers.

"Honestly, I think these folks are the cream of the crop. They are outstanding," said Mary Tobee, from Lockheed Martin in Orlando, Fla.

"We have a lot of interest. We talked to a lot of employees and found many matches meeting our requirements," said General Electric's Yuexi Xiong.

"There's so much talent in that room, it's crazy. Everyone is really, really qualified," said Mark Albright, from Space Lift Range in El Segundo, Calif.

Human Resources is planning to have another job fair in the fall, and has four Workforce Transition Offices staffed with Human Resource personnel to help improve resumes and interviewing skills.

NASA hosts its first naturalization ceremony

By Rebecca Sprague
Spaceport News

Think about those instances that take your breath away or bring a tear to your eye . . . singing the national anthem as F-15s soar overhead . . . watching the Changing of the Guard at Arlington National Cemetery . . . or feeling a space shuttle rumble into orbit from your own backyard.

Those tug-at-your-heartstrings kind of moments washed over the Rocket Garden at the Kennedy Space Center Visitor Complex on July 1 as 110 people from 36 countries took the Oath of Allegiance to become full-fledged American citizens.

As they prepared for their graduation-type ceremony, Margaret Iglesias, the Orlando Field Office director of Citizenship and Immigration Services, asked the applicants a few questions.

"Anyone excited?" The group erupted in cheers and applause as they waved their American flags in the air.

"Anyone want to change their mind?" Everyone shouted "No!"

For some, the road to becoming an American citizen has been a lengthy one. George William Dunne, a priest at St. Stephen's Catholic Church in Winter Springs, Fla., came to the United States from Ireland in 2001, and wasted no time submitting the paperwork and going through the interview process.

"It happened that I applied after 9/11, which changed everything, of course," Dunne said. "What might have been a shorter process became a very lengthy process."

Dunne said a few members of his congregation work at the space center and that it is such an honor to be among the first group of applicants to be naturalized at a NASA facility.

"It's a very emotional moment to be doing it here of all places," Dunne said. "For an Irish-American to do it in a place named after John F. Kennedy . . . the greatest Irish-American, for us anyway . . . I'm very, very happy that it's happened here. It's a historic day and it's always good to be a part of history."

In a place that is as American as the bald eagle, where the historic Redstone, Atlas and Titan rockets stand tall, Kennedy's Director of Education and External Relations Cheryl Hurst welcomed the applicants to the spaceport.

"Candidates, you've lived in the United States, but today you'll become full partners in the family that is America . . . and we at the Kennedy Space Center welcome you," Hurst said.

The Transportation and Security Administration Honor Guard posted the American, Homeland Security and NASA flags, and then 10-year-old Searra Weeks, a fifth-grade student at Robert Louis Stevenson Elementary School in Merritt Island, Fla., sang the national anthem. The applicants stood, put their right hand over their heart and sang along.

Next, Kennedy Center Director Bob Cabana took

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Exploration Park to attract high-tech companies, jobs

By Linda Herridge
Spaceport News

NASA and Space Florida are one giant step closer in their efforts to attract high-tech companies to Brevard County, and ultimately, the high-tech jobs that go with them.

Senior leadership from Kennedy Space Center and Space Florida, as well as local, state and Congressional leaders held a groundbreaking ceremony for the new Exploration Park on June 25 at the center's Space Life Sciences Laboratory, or SLSL. Florida Lt. Gov. Jeff Kottkamp, Reps. Suzanne Kosmas, Bill Posey and Ritch Workman, Sens. Mike Haridopolos and Thad Altman, business leaders and many others helped mark the event.

Kennedy Center Director Bob Cabana said he was pleased to be able to break ground on this venture, which he believes will play a very key role in helping Kennedy take advantage of new opportunities emerging from the transition that has begun.

"Exploration Park will help facilitate the center's future state, where we are the world's premiere spaceport, supporting a diversity of space transportation services and home to world-leading research and technology in space and space-related fields," Cabana said.

NASA/Kim Shiflett

Program Manager for Strategic Partnerships at Kennedy Space Center Jim Ball, left, Deputy Center Director Janet Petro, Center Director Bob Cabana, Florida Lt. Gov. Jeff Kottkamp, The Pizzuti Companies Chairman and CEO Ron Pizzuti, and Space Florida President Frank DiBello, break ground on Exploration Park outside of the Space Life Sciences Laboratory, or SLSL.

Cabana said partnerships are critical to the center's future and it's his hope that this partnership will showcase the tremendous talent that Kennedy has to offer, as well as the opportunities for growth and development that are available to commercial companies and academia at Exploration Park.

"The future of space is right here, right now," said Lt. Gov. Kottkamp. "This groundbreaking sends a message, not just to the rest of the country, but to the world, that Florida is going to compete on the world stage for space business."

He said the types of cutting-edge businesses that will operate from Exploration Park will play a significant role in growing Florida's innovation economy.

"We have an amazing 50-year history with the best space launch work force in the world here," Kottkamp said. "We're going to make sure we continue to be the leader in space."

Space Florida President Frank DiBello said he is thankful to Florida's State legislators for leading the charge on attracting increased commercial opportunities to the state's space industry.

"More than 1,700 jobs are possible within Phase 1 of this park, and we look forward to working with a wide variety of innovative companies to establish and grow their operations here," DiBello said.

Exploration Park will be adjacent to the SLSL, and plans are in the works to move the security gate back. It will house diverse tenants that will engage in activities to support the space and space-related activities of NASA, other government agencies, and the U.S. commercial space industry. It's also expected to attract new aerospace work to the Space Coast.

Phase 1 currently is expected to include eight new buildings totaling 315,000 square feet Space Florida signed a 60-year lease with NASA to develop 60 acres of usable space on Kennedy property for the park. The first of the new facilities will be built next to the SLSL and add other new laboratory and high bay capabilities. The facility is scheduled to be completed in early 2012.

Jim Ball, Kennedy's program manager for strategic partnerships, said Exploration Park will help support a robust commercial space transportation industry, its customer and supplier base, and facilitate a cluster of research and technology activities that advance NASA's mission.

Exploration Park's Master Developer is The Pizzuti Companies, of Columbus, Ohio. The company's southeast regional office is in Orlando, Fla.

"We're faced with many challenges right now as we transition from the space shuttle to a new era of commercial space development and an exploration program that's going to take us beyond our home planet," Cabana said. "Exploration Park is going to play a key role in helping us make that transition successful and placing us in the very best possible position for whatever challenges the future may bring."

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cryogens, of course, on the ground. But, we've got a lot of experience and we're going to apply that experience toward this particular project."

The new budget also calls for closing out the Constellation Program. Phillips talked about the biggest challenge in doing so.

"Keeping the team focused on the Constellation work, which is the budgeted work and the expected work for us to go perform, is difficult." Phillips said. "Amazingly though, my worry seems to lessen when I talk to the folks engaged in the community, out performing the work."

Research and Technology

Ramping up research and technology at the center has been a big topic of discussion for Kennedy. Pat Simpkins, Engineering and Technology Directorate director, said it won't be about reinventing the wheel, though. It will be about expanding upon what Kennedy does best. He talked about how commercial entities are surprised to find out Kennedy is more than just a facility where pieces come together for spaceflight.

"The more they're learning, the more they see," Simpkins said. "Every time we prove some capability, we build our integrity and our credibility to do those kinds of things at the Kennedy Space Center."

Business Development

The Center Planning and Development Office already has partnered with Florida Power & Light, Sun Power Corp., Space Florida, the Federal Aviation Administration and the Air Force to utilize Kennedy's unique capabilities. It will further that outreach with Exploration Park, which is expected to bring in new emerging industries, such as clean-energy and life sciences research, modeling and simulation technology, as well as colleges and universities from around the world.

"Partnerships are very important to the growth of the center and there are a lot of opportunities on the horizon for the Kennedy Space Center," said Joyce Riquelme, Center Planning and Development Office director. "Exploration Park and the other initiatives we undertake will be successful in meeting our objectives, ensuring the future economic diversity and vitality of the world's greatest spaceport."

Cabana ended the All-Hands by thanking the Kennedy team for its hard work and dedication.

"The people, this team, is phenomenal, and it makes Kennedy what it is," Cabana said. "We are doing our very best to ensure we take care of the people and we plan for the future."

Scenes Around Kennedy Space Center

NASA/Amanda Diller

The first group of the KSC Saturday Academy visits Launch Complex-39 on June 19. Open to local students and their parents in fourth- through eighth-grades, the program takes places every third Saturday of the month and will run for one year.

NASA/Sandra Joseph

NASA Employees of the Month: July

Employees of the month for July are, from left, Edwin Martinez, Procurement Office; Larry Craig, Launch Services Program; Pamela Bohn, Safety and Mission Assurance Directorate; Kathleen James, Engineering Directorate; Trent Smith, Launch Vehicle Processing Directorate; Eugene Hajdaj, Center Operations; Kenneth Tenbusch, Constellation Space Transportation Planning Office. Not pictured are Grant Stoddard, Information Technology and Communications Services; Angel Lucena, Engineering Directorate; and Stacy Hermann, Human Resources Office.

NASA/Jack Pfaller

Space shuttle main engine No. 3 is installed in shuttle Discovery in Orbiter Processing Facility-3. The engine was removed to give technicians time to replace a suspect turbopump in main engine No. 1, which encountered an issue during torque testing. Discovery and its STS-133 crew are targeted to launch Nov. 1 to deliver the Express Logistics Carrier-4 filled with external payloads and experiments, as well as critical spare components to the International Space Station.

Photos by NASA/Jack Pfaller

Education night thrills families

Above: Spaceperson greets students during NASA's family education night event at the Astronaut Hall of Fame near the Kennedy Space Center Visitor Complex. The event is part of NASA's Summer of Innovation initiative to provide interactive learning experiences to middle school students nationwide during the summer months. Fifth- through eighth-grade students and their parents participate in events that focus on science, technology, engineering and mathematics, or STEM, including "gee-whiz" presentations, astronaut appearances, a hovercraft, vortex cannon and alternative fuel vehicles. The program is a cornerstone of the Educate to Innovate campaign announced by President Barack Obama last November. **Below:** Students participate in a science experiment to demonstrate chromatography with the use of simple household items, such as coffee filters, water-based markers, pipe cleaners and a small cup of water.

NASCAR's Joe Gibbs Racing tests car design at SLF

By Steven Siceloff
Spaceport News

You don't need a space shuttle to rocket down the runway at NASA Kennedy Space Center's Shuttle Landing Facility, as NASCAR racer Matt DiBenedetto proved recently.

Driving the same kind of car used at American superspeedways, DiBenedetto streaked down the runway at 205 mph, just shy of the space shuttle's touchdown speed. He shifted to neutral until the car touched 150 mph before revving up again.

"I never thought I'd get lucky enough to come out and use the Kennedy Space Center runway," he said. "I never really thought about it, but after coming here it's obviously working out really great for us."

While DiBenedetto drove the instrument-laden Toyota up and down the three-mile-long runway a few dozen times, a cadre of engineers who set up on the facility's ramp, looked over the data on laptop computers. The work was part of Joe Gibbs Racing's testing program that looks for ways to improve a stock car design.

NASA/Kim Shiflett

NASCAR driver Matt DiBenedetto prepares to drive an instrument-laden Toyota down the three-mile-long Shuttle Landing Facility runway at Kennedy Space Center.

"Really, the sport has gotten so competitive that a couple tenths of a percent in downforce can make a huge difference on the track and that can be the difference between an eighth or tenth place car and a top-three car," said Dan Olson, an aerodynamic engineer for Joe Gibbs Racing.

If the goal had been to see how fast the car would go, he could have reached about 237 mph, the driver said. Instead, the testing, as precise and disciplined as NASA's own regimens, was focused on the aerodynamics of the car during the coast-down phase from 205 to 150.

"There's a lot of different tasks that we're doing, not specifically going for all speed," DiBenedetto said. "We do a bunch of different stuff out here."

This was the first time the Joe Gibbs operation came to Kennedy for testing, although other teams have evaluated high-performance cars on the runway. The partnership was set up by Kennedy's Center Planning and Development Office, which finds business development uses for the spaceport's unique assets.

"This facility is fantastic because there are so many different, interesting things, and talking to engineers who stop by and other NASA technicians," said Olson, who also is a private pilot. "I'd love to see a space shuttle land out here."

"Coming out on the runway for the first time, it was neat, it was just so large and there's so much room you about feel lost on it," DiBenedetto said.

The team tests in several places in the U.S., including Toyota's proving ground in Arizona and in wind tunnels. But the Shuttle Landing Facility offers an exceptionally flat expanse that allows the engineers to push the boundaries to find out what the car can do.

For example, the air dam on the front of the car could be lowered until it was all but touching the concrete on the runway, something not possible in a wind tunnel. Wind tunnels also are expensive, Olson said, costing about $4,000 an hour.

"When we come here, they throw a lot of data and software on the car and hopefully we can learn something new because with the sport nowadays, if you can find the tiniest little edge, it could be huge," DiBenedetto said.

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to the podium to offer some words of encouragement.

"You know, those of us who were born in the United States, we take a lot for granted . . . and sometimes we don't appreciate the rights and privileges we have in this country," Cabana said. "All of you . . . you had a choice, you weren't born here. You chose to live here and that's special. You recognize that this truly is the greatest nation on our planet.

"You know, this is a nation where a small farm boy from Minnesota, the grandson of Norwegian immigrants, can end up flying in space. Dreams come true in this nation if you work hard and apply yourself."

Before all the applicants received their papers, certifying them as American citizens, all-star players from the North Merritt Island Little League led them in the Pledge of Allegiance.

"So, what's more American than that, right? Rockets, baseball, if we only had apple pie," said Kathy Redman, the director of Citizenship and Immigration Services' Tampa District.

Jamaican-born Mikenna Jumpp, a member of the Army Reserve, and three other members of the military, received special recognition for defending a country they now can officially call home.

As Jumpp's father found her in the crowd, he gave her a kiss on the forehead, told her he was proud and said he had tears in his eyes when her name was called.

"I'm proud to be a citizen," Jumpp said. "I've been living the citizen life for as long as I've been here, but I'm proud to have it on paper now."

Jeff Hartigan, who was born in Vancouver, Canada, brought along his wife, Stacey, and two daughters, 2-year-old Hadlyn and 2-month-old Hensley.

"To be among the shuttles and rockets was pretty cool, and to be able to sit there next to a Saturn (rocket) so close to the Fourth of July . . . it was very patriotic," Hartigan said. "It gives you chills, certainly as a newcomer to the country."

Hartigan said his wife and children were born in the U.S. and that after nine years it is "nice to be a part of the club."

"That's why we brought them today . . . because they are a part of this whole thing," Hartigan said. "One day we can pull out the pictures and look back at this day and I can tell them a story about how dad wasn't originally born in this country, but is now a part of it."

President Barack Obama also sent along a recorded message:

"It's an honor and a privilege to call you a fellow citizen of the United States of America. This is now officially your country, your home to protect, to defend and to serve through active and engaged citizenship.

"You can help write the next great chapter in our American story . . . and together, we can keep the beacon that is America burning bright for all the world to see."

About 3,800 applicants became citizens at 55 special ceremonies held across the country and around the world July 1-6. Next up for those who began their new journey at Kennedy, is to create their own All-American, fill-your-heart-with-pride kind of moments.

Remembering Our Heritage

Apollo-Soyuz Test Project paved way for cooperation

By Kay Grinter
Reference Librarian

International cooperation in space, so integral to the success of NASA today, flourished during one of its most competitive programs.

The Saturn rockets originally were developed in response to what was seen as intense competition for domination in space with the Soviet Union. Ironically, the last launch of a Saturn rocket was for the first cooperative "manned" mission with the Soviets, known as the Apollo-Soyuz Test Project, or ASTP.

Following many months of preliminary talks and agreements, the Soviets and Americans agreed in May 1972 to work out a common docking system for future generations of spacecraft.

The mission involved the challenge of joining spacecraft, which were developed by the space programs of the United States and the Soviet Union, for the first time in Earth orbit for cooperative engineering and scientific activities.

NASA ended the Apollo lunar landing program after the sixth successful mission, Apollo 17, in December 1972. Skylab, NASA's first space station program, made use of some of the remaining Saturn boosters during four launches in 1973 and 1974.

In the "use it up, wear it out, make it do" tradition of an earlier era, ASTP relied on Saturn IB stages manufactured early in the Apollo Program.

The ASTP launch vehicle's first stage was built by the Chrysler Corp. at NASA's Michoud Assembly Facility in January 1967. Following static-firing tests in the spring of 1967, the stage was put in storage at Michoud, where it remained until October 1972. After the first stage was modified, refurbished and checked out, it was shipped to Kennedy Space Center in April 1974.

NASA file/1975

American and Soviet crews inspect the docking module in February 1975, which served as the link between their spacecraft during the Apollo-Soyuz Test Project mission.

The S-IVB second stage was of the same vintage, completed in 1967 by McDonnell Douglas at Huntington Beach, Calif., and was stored there until the fall of 1972, when it was shipped to Kennedy. After more months of storage, the first and second stages were stacked, and the vehicle was erected on a mobile launcher in January 1975.

The instrument unit, built by IBM, shared a similar manufacturing and storage history. It was shipped to Kennedy by barge in May 1974. After stacking, the entire vehicle was rolled out to Launch Pad 39B late in March 1975.

According to plan, the Soviets launched first from the Soviet Cosmodrome at Baikonur, early in the morning of July 15, 1975, with cosmonauts Aleksey Leonov and Valery Kubasov aboard. Seven and a half hours later, the Saturn IB lifted off from Kennedy, carrying NASA astronauts Tom Stafford, Vance Brand, and Deke Slayton.

For Slayton, one of the original Mercury 7 astronauts, this was his first and only trip into space. It also marked the last crewed mission before NASA took a six-year hiatus from launching humans.

Operation of the Saturn lB rocket was flawless, and the spacecraft had the fewest in-flight anomalies of any Apollo flown.

Docking was accomplished July 17 when the Apollo spacecraft was gradually piloted toward the orbiting Soyuz.

After the hatch between the two spacecraft opened, Stafford presented Leonov with "five flags for your government and the people of the Soviet Union" with the wish that "our joint work in space serves for the benefit of all countries and peoples on the Earth."

During the next two days, the crews accomplished four transfer operations between the two spacecraft and completed five scheduled experiments.

In addition, the crews provided television views of the interior of the two spacecraft and demonstrated various aspects of space operations. This mission marked the first time that voice, television and telemetry were relayed between an orbiting Apollo spacecraft and the ground via the ATS-6 communications satellite. This new technique more than tripled the communications coverage otherwise available.

Following the first undocking, a joint solar eclipse experiment was performed. Then, Apollo performed a second docking, this time with the Soyuz apparatus locking the two spacecraft together.

Before the final undocking, Brand told Leonov and Kubasov, "We wish you the host of success. I'm sure that we've opened up a new era in history. Our next meeting will be on the ground."

The two spacecraft were moved to a station-keeping distance July 19, and a joint ultraviolet absorption experiment was performed involving a complicated series of orbital maneuvers.

The Soyuz crew landed safely July 21, after six mission days. The Apollo flight ended July 24, nine days after launch. The primary objectives of the program were met, including rendezvous, docking, crew transfer and control center-crew interaction, and all objectives of the scientific experiments were completed.

The Apollo-Soyuz mission was a relative bargain at $250 million, bringing with it additional incentive for international cooperation and peace.

Today, three complete Saturn V rockets are on public display. One is in Kennedy's Apollo/Saturn V Center, another is at NASA's Johnson Space Center in Houston, and the third at the United States Space and Rocket Center in Huntsville, Ala., near NASA's Marshall Space Flight Center.

Editor's note: Text for this article was taken largely from "Stages to Saturn," NASA SP-4206.

Put you face in space

NASA's Face-in-Space program gives people the chance to put their picture on one of the remaining space shuttle missions and launch it into orbit.
Go to **http://faceinspace.nasa.gov/** and follow the instructions to upload a photo and to find out how to receive a flight certificate at the conclusion of the mission.

Upcoming events . . .

July 15 STS-132 Mission Celebration with the Crew; 3:30 p.m., KARS Park II

July 16 STS-132 Crew Return Presentation; 1 to 2:15 p.m., KSC Training Auditorium; Live broadcast on KSC TV, Channel 7

July 24 and Aug. 28 The KSC Education Office hosts NASA Family Education Night; 6 to 10 p.m., Astronaut Hall of Fame
POC: Beverly Davis, 867-3399, **beverly.davis@nasa.gov**

Aug. 30 The Innovative Partnerships Program is hosting a lecture by Dr. Nannette Stangle-Castor on "Open Innovation";
9 to 11:30 a.m. or 1 to 3:30 p.m.
POC: Carol Anne Dunn, 867-6381

Sept. 25 KSC Family Day/Take Your Children to Work Day
POC: Layla Higgins, **layla.m.higgins@nasa.gov**

For more, go to the internal Kennedy Events and Schedules Calendar at
www.nasa.gov/centers/kennedy/events/index.html

Looking up and ahead . . .

Targeted for July 30	Launch/CCAFS: Atlas V, AEHF 1; 8:05 to 10:05 a.m. EDT
Targeted for Oct. 19	Launch/CCAFS: Delta IV Heavy, NROL-32; TBD
Targeted for Nov. 1	Launch/KSC: Discovery, STS-133; 4:33 p.m. EDT
Targeted for Nov. 17	Launch/CCAFS: Atlas V, GPS IIF-2; TBD
Nov. 22	Launch/VAFB: Taurus, Glory; TBD
Targeted for Jan. 22, 2011	Launch/CCAFS: Atlas V, SBIRS GEO-1; TBD
Targeted for Feb. 26, 2011	Launch/KSC: Endeavour, STS-134; 4:19 p.m. EST
Aug. 5, 2011	Launch/CCAFS: Atlas V, Juno; TBD
Aug.15, 2011	Launch/Reagan Test Site: Pegasus, NuSTAR; TBD
Sept. 8, 2011	Launch/CCAFS: Delta II Heavy, GRAIL; TBD
Sept. 23, 2011	Launch/VAFS: Delta II, NPP; TBD
To Be Determined	Launch/VAFB: Delta II, Aquarius / SAC-D Satellite; TBD
No Earlier Than Nov. 25, 2011	Launch/CCAFS: Atlas V, Mars Science Laboratory; TBD

NASA/Jack Pfaller

A Space Shuttle Program worker signs a section of the Vehicle Assemble Building wall that has been designated as a tribute to the program. Signing opportunities occur weekly on Tuesdays from 6:30 to 9 a.m. and Thursdays from 2:30 to 5 p.m. Signing will be permitted during these time frames only, and times are subject to change based on operational requirements in the VAB. An end date for this opportunity has not been set. Those planning to take part should do so at their earliest convenience. All Kennedy personnel are invited to sign and area permit badging for the VAB is not required. Special arrangements have been made to have a badge exchange board available at F-Gate for access of non-VAB-badged personnel during the designated signing opportunities. Volunteers and signs will be in place to direct personnel to the wall. Special pens and a template for name signing will be provided. Cameras are permitted for this opportunity.

John F. Kennedy Space Center

Spaceport News

Spaceport News is an official publication of the Kennedy Space Center and is published on alternate Fridays by External Relations in the interest of KSC civil service and contractor employees.

Contributions are welcome and should be submitted **three weeks** before publication to the Media Services Branch, IMCS-440. E-mail submissions can be sent to **KSC-Spaceport-News@mail.nasa.gov**

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Editorial support provided by Abacus Technology Corp. Writers Group.
NASA at KSC is on the Internet at www.nasa.gov/kennedy
USGPO: 733-049/600142